

EXHIBIT 2

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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

CERTAIN MICROFLUIDIC SYSTEMS
AND COMPONENTS THEREOF AND
PRODUCTS CONTAINING SAME

Investigation No. 337-TA-1100

COMMISSION OPINION

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position on whether Dr. Heredia should have been named as a joint inventor of the '204 patent. The Commission affirms the ID's findings with respect to Bio-Rad's inventorship defense for the other three patents. Because the Commission has affirmed the ID's finding of noninfringement with respect to the '204 patent, the Commission's determination to take no position on Bio-Rad's inventorship defense with respect to the '204 patent does not affect the ID's ultimate finding of no violation with respect to the '204 patent.

VIII. OWNERSHIP

The ID rejected Bio-Rad's claim that it had an ownership interest in each of the asserted patents based on work done by Drs. Hindson and Saxonov during their time at QuantaLife/Bio-Rad. *See* ID at 136–152. The ID began by explaining that inventorship and ownership are distinct issues, and that while federal patent law governs inventorship, ownership is a question of state contract law. *Id.* at 136–141. The ID noted with disapproval that the parties conflated the two issues in their briefing. *See id.* at 141. The ID went on to explain that the crux of the dispute with respect to Bio-Rad's ownership defense involves defining the “inventive concept” in the asserted patents. *See id.* The ID rejected Bio-Rad's approach to that issue, explaining that Bio-Rad “briefed the matter as if it owned a share of the patents because it could trace some elements of the asserted patents to work done at Quanta/Life and Bio-Rad.” *Id.* The ID explained that while Bio-Rad “owns many ideas conceived by Drs. Hindson and Saxonov, [] it does not own the idea for the specific arrangement of elements claimed in the asserted patents . . . because there is insufficient evidence that that idea was conceived-during the period of employment.” *Id.* at 142.

Concerning the pertinent contract language, the ID noted that “[n]o provision of any of the applicable contracts governs future inventions that are based on or developed from work done during employment.” *Id.* at 144. Based on this observation, the ID found Bio-Rad's interpretation of the contract to be unreasonable because it “read out the plain meaning of the durational

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limitation in the pertinent contracts, and in its place suggest[ed] an interpretation of the contracts in which inventions developed by the employee after his employment belong to the company if they are related to ideas conceived during employment.” *Id.* at 145. The ID went on to reject Bio-Rad’s theory that it is entitled to a pro-rata undivided co-ownership interest in the asserted patents based on Drs. Hindson and Saxonov’s discovery of ideas that are related to the invention in the asserted patents, as opposed to their actual discovery of the invention. *See id.*

The ID next considered whether Bio-Rad had presented evidence showing that the inventive idea embodied in the asserted patents was conceived at QuantaLife/Bio-Rad. The ID concluded that Bio-Rad presented no direct evidence of such conception. *See id.* As for circumstantial evidence, the ID determined that the relatively short time between when Drs. Hindson and Saxonov left Bio-Rad and when they filed their first provisional patent application did not, on its own, establish conception by Drs. Hindson and Saxonov at Bio-Rad. *Id.* at 146.¹⁴ The ID also rejected several challenges to Dr. Hindson’s credibility. *Id.* at 147–48.

Next, the ID rejected Bio-Rad’s argument that certain concepts disclosed by Drs. Hindson and Saxonov at Bio-Rad can be traced to the asserted patents such that conception at Bio-Rad should be implied. *Id.* at 149. In rejecting this argument, the ID credited testimony from Dr. Saxonov that the ideas formed at Bio-Rad were only directions for further research, as opposed to ideas that would work. *See id.* at 149–150. The ID also rejected a similar argument based on the ’059 patent’s disclosure of certain numerical ranges, *see id.* at 150, and based on lab notebooks offered by 10X. *See id.* at 150–51. The ID concluded as follows: “In sum, the evidence before me is insufficient to permit the conclusion that, more likely than not, the work Drs. Hindson and

¹⁴ The ID noted that Drs. Hindson and Saxonov left Bio-Rad in April 2012 and founded 10X several months later. *ID* at 146. In August 2012, Drs. Hindson and Saxonov filed their first provisional patent application at 10X. *Id.*

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Saxonov did at QuantaLife and Bio-Rad led them to conceive the idea described in the 10X patents while they were still under contract.” *Id.* at 151. Accordingly, the ID found that Bio-Rad “failed to establish ownership of the asserted patents.” *Id.*

The ownership dispute in this investigation revolves around Drs. Hindson and Saxonov’s employment contracts with QuantaLife and Bio-Rad. The relevant portions of the QuantaLife contracts contain identical language, as follows:

■ [REDACTED]

■ [REDACTED]

■ [REDACTED]

■ [REDACTED]

■ [REDACTED]

RX-0623C (Hindson-QuantaLife contract) at ¶ 2; RX-0624C (Saxonov-QuantaLife contract) at ¶ 2; *see also* ID at 143–44 (quoting same). The relevant portions of the Bio-Rad contracts also contain identical language, as follows:

■ [REDACTED]

■ [REDACTED]

■ [REDACTED]

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[REDACTED]

RX-0619C (Hindson-Bio-Rad employment agreement) at ¶¶ 3, 6; RX-0620C (Saxonov-Bio-Rad employment agreement) at ¶¶ 3, 6; *see also* ID at 144 (quoting same).

The Commission finds that Bio-Rad has failed to show that the “ideas” developed by Drs. Hindson and Saxonov at QuantaLife/Bio-Rad would entitle them to an ownership interest in the asserted patents. This follows for several reasons. First, in its response to the Commission’s questions, Bio-Rad only attempted to map the ideas developed at QuantaLife/Bio-Rad onto a single claim: claim 1 of the ’468 patent. *See* Bio-Rad Resp. to Qs. at 4–12. Bio-Rad summarily asserted that the “’468 Patent is representative of the claims of the four 10X Patents,” *id.* at 5, but did not attempt to show a direct correspondence between the “ideas” developed at QuantaLife/Bio-Rad and the particular limitations of any claim of the ’024, ’204, and ’530 patents.¹⁵ Instead, Bio-Rad argued that all four asserted patents have the same “fundamental architecture,” and thus its mapping of ideas onto the limitations of claim 1 of the ’468 patent should entitle it to an ownership interest in the other asserted patents as well. *See id.* at 12–14. Thus, at best, Bio-Rad’s showing of ownership under its theory would be limited to the ’468 patent.

Second, Bio-Rad was only able to map the “ideas” it relies on to claim 1 of the ’468 patent because it substituted generic descriptions in place of the specific limitations of that claim. For example, Bio-Rad argued that Dr. Hindson “came up with ideas at QuantaLife about [REDACTED]

¹⁵ Among other “ideas,” Bio-Rad argued that Drs. Hindson and Saxonov conceived of the idea to use porous gel beads as a reagent delivery system while at QuantaLife. *See* Bio-Rad Resp. to Qs. at 10. However, Order No. 43 precluded Bio-Rad from arguing that the idea for porous gel beads was conceived at QuantaLife/Bio-Rad. Bio-Rad did not petition for review of that order, nor has the Commission determined to review that order *sua sponte*. Accordingly, Bio-Rad may not now argue that it is entitled to an ownership interest in the asserted patents because the idea of using porous gel beads was developed at QuantaLife.

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[REDACTED]

[REDACTED] and that “[t]he use of droplets to partition sample (and achieve a single cell per partition) is fundamental to claim 1 of the ’468 Patent.” Bio-Rad Resp. to Qs. at 5. But claim 1 of the ’468 patent recites a method for droplet generation with three steps, each of which has a number of specific internal limitations; it does not broadly claim the use of droplets to partition a sample. *See* ’468 patent at cl. 1. That disconnect undercuts Bio-Rad’s theory of ownership based on Drs. Hindson and Saxonov’s prior “ideas.”

In the same vein, the Commission also notes that the “ideas” Bio-Rad identified relate to different architectures and applications than those central to the asserted patents. *See* CX-0001C (Hindson WS) at Q/A 79–107 (discussing 10X’s development of its GEMs and their attributes); *see also* ID at 142 (“the inventive idea is a specific arrangement of elements which, when combined, works to achieve a desired goal.”). This follows from the fact that the “ideas” relied on by Bio-Rad were developed in connection with the droplet-in-droplet architecture described in the ’059 patent. *See, e.g.,* Bio-Rad Pet. at 84, 87 (citing lab notebook (RX-127C at 95, 97) and [REDACTED], to support ownership claim based on “ideas” developed at QuantaLife). The asserted patents, however, do not use a droplet-in-droplet approach, as the ’059 patent did (Dr. Saxonov is the named inventor of the ’059 patent, and he assigned the patent to Bio-Rad). *See* Tr. (Metzker) at 656–657; CX-1829C (Saxonov WS) at Q/A 28–32 (discussing the droplet-in-droplet concept for barcoding before sequencing and its disclosure in the ’059 patent); CX-1827C (Dear WS) at Q/A 40. Rather, the asserted patents, in contrast, require features such as the release of the barcodes from the bead into the droplet in the ’024 patent, a particular microfluidic arrangement for generating droplets with the beads in the ’468 patent, and a large diversity of beads for use in

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generating droplets with single cells in the '530 patent. *See* CX-1827C (Dear WS) at Q/A 40; *see also* ID at 33–40 (finding that the '024 patent was novel and not obvious vis-à-vis the '059 patent and Church (RX-0462)). As such, the asserted patents are based on a different architecture involving beads or capsules that release key reactants. *See* CX-1828C (Hindson WS) at Q/A 24–34 (describing how 10X invented its GEM architecture “from scratch . . . because there was no such architecture at QuantaLife.”). Thus, the inventions claimed in the asserted patents are fundamentally different from the prior work conducted at QuantaLife/Bio-Rad.

Third, even under Bio-Rad’s theory that it owns a share of the patents based on joint inventorship principles, *see, e.g.*, Bio-Rad Pet. at 77–80, Bio-Rad has not shown that the “ideas” it relies on to build its joint inventorship argument are distinct from the prior art. Indeed, many of these “ideas” are embodied in the '059 patent — a patent naming Dr. Saxonov as an inventor that *was* assigned to Bio-Rad because the underlying invention was developed during his employment at Bio-Rad — which make those ideas part of the prior art. *See* '059 patent (JX-0031) at 1:26–55. But merely explaining the prior art is not sufficient to render someone a joint inventor. *See Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466, 1473 (Fed. Cir. 1997) (“[A] person will not be a co-inventor if he or she does no more than explain to the real inventors concepts that are well known and the current state of the art.”). No part of Drs. Hindson and Saxonov’s employment agreements preclude them from building on ideas in the prior art. Moreover, the existence of the '059 patent demonstrates that Bio-Rad received the benefit of its bargain with respect to the employment agreements. For the ideas that were conceived at QuantaLife or Bio-Rad, Dr. Saxonov did assign his rights. *See* '059 patent (JX-0031) at Cover (“Assignee: Bio-Rad Laboratories, Inc.”). Bio-Rad overreaches inasmuch as it now attempts to extend its rights to inventions conceived outside the term of Drs. Hindson and Saxonov’s employment agreements. *Cf. Israel Bio-Eng’g Project v.*

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Amgen, Inc., 475 F.3d 1256, 1267 (Fed. Cir. 2007) (in a case involving an Israeli contract, the Federal Circuit concluded that the plaintiff “was not entitled to further assignments of any other newly developed inventions, even when these inventions built on proprietary information developed during the [contractual] R & D process,” which concluded in December 1987); *see also* ID at 148–49 n.29 (reasoning that if Hindson and Saxonov’s prior, generic work [REDACTED] were sufficient to trigger ownership rights, “the contracts’ [REDACTED] would be nullities.”); *Dawson v. Dawson*, 710 F.3d 1347, 1353–56 (Fed. Cir. 2013) (concluding that, along with other evidence, a preliminary statement about a potential use was insufficient to establish that an inventor conceived the claimed invention while employed by his former employer). Accordingly, for the reasons provided above, the Commission finds that Bio-Rad has failed to show that the “ideas” Bio-Rad relies on entitle it to an ownership interest in the asserted patent.

Concerning the ID’s use of the phrase “inventive concept,” the Commission notes that the phrase has some history in patent law and its use in the ID may invite confusion, as evidenced by Bio-Rad’s brief. *See, e.g.*, Bio-Rad Ans. at 16 (“The ALJ’s analysis was incorrect because it treated the ownership question as requiring proof of a singular eureka moment at a specific point in time when everything was finalized and established to work.”). Particularly, “inventive concept” may imply similarity to the pre-1952 patent law’s requirement for a “flash of genius,” *compare Cuno Eng’g Corp. v. Automatic Devices Corp.*, 314 U.S. 84, 91 (1941) (requiring an invention to “reveal the flash of creative genius not merely the skill of the calling.”) *with* Pub. L. 82-593, § 103, July 19, 1952, 66 Stat. 798 (Patent Act of 1952) (“Patentability shall not be negated by the manner in which the invention was made.”), or it may suggest the search for an “inventive concept” in step 2 of an *Alice* patent-eligibility analysis. *See Alice Corp. Pty. v. CLS*

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Bank Int'l, 573 U.S. 208, 217 (2014) (“We have described step two of this analysis as a search for an ‘inventive concept.’”).

Upon review of the ID, the Commission has determined to clarify that the ID’s use of the phrase “inventive concept” is synonymous with “the specific arrangement of elements claimed in the asserted patents.” ID at 142; *see also id.* (“[T]he invention claimed in the asserted patents is complex and consists of many elements. CX-0001C (Hindson WS) at Q/A 88. The inventive idea, which emerged from many other ideas (some of which clearly were in the prior art), is to combine these elements in a process resulting in what 10X calls the GEM (‘gel bead in emulsion’) architecture. As confirmed by both parties, **the inventive idea is a specific arrangement of elements which, when combined, works to achieve a desired goal.**”). Bio-Rad’s position that the use of the phrase “inventive concept” in the ID is indicative of a search for a singular eureka moment conflicts with the ID’s explanation that the inventive concept is the combination and specific arrangement of elements laid out in the claims of the asserted patents. The Commission finds no error in the ID’s focus on the inventions as laid out in the claims in its analysis of Bio-Rad’s ownership defense.

Consistent with the reasoning above, the Commission affirms with supplemented reasoning the ID’s finding that Bio-Rad has not shown that it is entitled to an ownership interest in any of the asserted patents.

IX. CLERICAL ERROR

10X’s petition for review included a request to correct two clerical errors in the ID. *See* 10X Pet. at 18–19. One of the errors appears on page 91 of the ID, and the other on page 105. *See id.* at 19. The error on page 105 relates to the same absence of an accused assay in the ID’s infringement findings for dependent claim 26 of the ’530, which has already been addressed *supra* in this opinion. Concerning the error on page 91, 10X explained that “[t]he ID states on page 91

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consumers will be harmed by the issuance of a tailored LEO and similarly tailored CDO in this investigation.

E. Commission Determination on Public Interest

Upon consideration of the parties' submissions, and after considering the effect that remedial orders would have on the public interest, the Commission has determined to issue a tailored LEO and a similarly tailored CDO. The exemptions to the LEO and CDO proposed by 10X will allow the work of researchers already using Bio-Rad's products to continue.

XIII. CONCLUSION

For the reasons discussed above, the Commission has determined that Bio-Rad violated Section 337 by importing into the United States, selling for importation, or selling in the United States after importation certain microfluidic systems and components thereof and products containing same by reason of infringement of certain claims of the '024, '468, and '530 patents. The Commission finds no violation with respect to the asserted claims of the '204 patent. The Commission has determined to issue a limited exclusion order and a cease and desist order against Bio-Rad. The Commission finds that the public interest factors do not weigh against issuing these remedial orders. The Commission has further determined that during the Period of Presidential review, a bond in the amount of twenty-five (25) percent of entered value shall be applied to covered Bio-Rad products.

By order of the Commission.



Lisa R. Barton
Secretary to the Commission

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